

ABSTRACT

A method and apparatus provided for monitoring the integrity of a structure 10 disposed in an environment containing a fluid F at an ambient pressure. The structure 10 includes a skin 12 and a plurality of internal cavities 14. The method involves applying a further fluid to the cavities 14, the applied fluid being at a pressure which is marginally greater than the atmospheric ambient pressure F. The flow rate of the applied fluid is monitored for detection in a change in the flow rate. The change in flow rate is indicative of additional fluid seepage through the structure 10 providing advance warning of a failure in the integrity of the structure 10. Monitoring is achieved by passing the applied fluid through a high fluid flow impedance 28 and monitoring for a change in pressure across the impedance 28 using a transducer 30.